

REMARKS

This amendment is submitted in an earnest effort to bring this case to issue without delay.

Applicants have combined original claims 25 and 26 into amended claim 25. Claim 26 has been canceled. Applicants have amended claim 25 to make it clear that in the hybrid silicone composite powder the PMS and PMSQ form a composite structure of two interpenetrating polymer networks, which are held together by physical entanglements on a molecular scale without chemical bonding between them. See page 5, lines 16 to 26 of the specification for antecedent basis. Claims 27 and 28 have been amended to be dependent upon claim 25. Thus claims 25 and 27 through 34 are now in the application and are now presented for examination.

Now that Applicant has combined claims 25 and 26 into new claim 25, the rejection of claim 25 under 35 USC 103 as obvious in view of the combination of KANNO et al, HARASHIMA et al, and FUKUNAGA et al has become moot. Furthermore the combination of KANNO et al, HARASHIMA et al, and FUKUNAGA et al with TAMORI et al still provides no basis to reject any claim now presented as obvious under 35 USC 103.

The Examiner's argument against the hybrid silicone composite powder of claim 25 as last presented is that KANNO et al and FUKUNAGA each disclose spherical particles of a silicone rubber coated with PMSQ. See col. 4, lines 38 to 42, and col. 9, line 52

to col. 10, line 4 of KANNO et al and col. 4, lines 57 to 60 of FUKUNAGA. Applicants emphasize that their invention in present claim 25 includes a hybrid silicone powder with a composite structure of the two interpenetrating polymer networks (IPN), PMSQ and PMS, which are held together by physical entanglements on a molecular scale without any chemical bonding and that such a structure is not disclosed in either reference. Both KANNO et al and FUKUNAGA disclose a silicone rubber core coated with a PMSQ resin coating. See col. 9, lines 52 to 55 of KANNO and col. 4, lines 64 to 67 of FUKUNAGA. Neither reference, however, discloses as the core of the spherical particles a silicone rubber that is PMS. Nonetheless, The Examiner considered claim 25 as originally presented broad enough to cover the case where a spherical particle contains a PMS core and a PMSQ coating on the core. Thus the Examiner applied these references against original claim 25 in combination with HARASHIMA et al which discloses a PMS silicone rubber powder. See claim 5 of HARASHIMA et al. The Examiner believes that it would be obvious to substitute the PMS silicone rubber disclosed in HARASHIMA et al for the other kinds of silicone rubber disclosed in KANNO et al and FUKUNAGA.

Applicants believe that the Examiner's argument has a defect. The invention in KANNO relates to particles of silicone rubber coated with a coating such as PMSQ to form an additive for styrene polymers to make the styrene polymers more suitable for forming plastics by improving impact strength and sliding

properties of the polystyrene, while retaining its molding properties and rigidity. See col. 3, lines 54 to 57 of KANNO. This utility has nothing to do with the present utility of improving the feel of cosmetic compositions to the skin by making the composition feel smoother. In the case of FUKUNAGA, the purpose of the compositions disclosed therein is to form a heat fixing roll used in photocopy machines that includes silicone rubber that is abrasion resistant by forming particles of the silicone rubber coated with the PMSQ. See col. 3, lines 35 to 45 of the reference. Thus neither of these references relates at all to cosmetic compositions.

It is true that the HARASHIMA et al reference does relate to cosmetic compositions and that the purpose of these compositions is to provide cosmetic compositions with a smooth feel and to prepare these compositions more efficiently. See col. 1, line 17 of the reference. The HARASHIMA et al reference furthermore discloses a modified PMS as the silicone polymer that has this property. See col. 3, lines 30 to 37 of the reference. Without the chemical modification, the PMS suffers from poor flowability and poor hydrophilicity and so may not be added to cosmetics. See col. 1, lines 39 to 60 of the reference. Thus the PMS silicone rubber must be chemically modified according to HARASHIMA et al with at least one polyoxyalkylene group bonded to one of the silicon atoms in the polymer in order to provide the advantageous properties. The PMS silicone rubber disclosed in the present invention makes no

mention of a chemical modification thereof. Thus substituting the chemically modified PMS disclosed in HARASHIMA et al for the silicone rubber cores of the spherical particles disclosed in KANNO et al and FUKUNAGA will still not lead to the presently claimed invention, which once again uses PMS and not PMS chemically modified with at least one polyoxyalkylene group bonded to one of the silicon atoms thus the combination of these three references will not lead to the presently claimed invention.

Furthermore the Examiner has not established an art-recognized equivalence between the silicone rubbers disclosed in KANNO et al and FUKUNAGA and either the basic PMS or the PMS chemically modified with at least one polyoxyalkylene group bonded to one of the silicon atoms in the polymer disclosed in HARASHIMA et al. KANNO et al discloses a vinyl-containing dimethylpolysiloxane and methyl-hydrogen-polysiloxane as such a silicone rubber powder. See col. 9, lines 56 to 67 of KANNO et al. FUKUNAGA discloses silicone rubbers that are well known in the art; see col. 4, lines 47 to 57 of the reference where reference is made to STYCAST, TSE and DC3 brands of silicone rubber.

Next the Examiner has focused on claim 26, last presented, and all claims dependent upon claim 26. The Examiner is aware that the hybrid silicone composite powder of claim 26 is more narrowly defined than in original claim 25. The powder of claim 26 must contain a composite structure of two interpenetrating

networks, that is a PMS interpenetrating network and a PMSQ interpenetrating network held together only by physical entanglements without chemical bonding. Such a claim does not encompass a silicone rubber particle of PMS coated by a PMSQ resin coating. Therefore the Examiner has applied the TAMORI et al reference which discloses an interpenetrating polymer network which comprises a polyorganosiloxane. See col. 4, lines 34 to 37 of the reference. The Examiner argues that a polyorganosiloxane could encompass the PMS polymers according to the present invention. In view of TAMORI et al in combination with the KANNO, FUKUNAGA and HARASHIMA et al references discussed above, the Examiner believes that it would have been obvious to obtain the hybrid silicone composite powder as defined in claim 26 as well even with the two interpenetrating polymer networks of PMS and PMSQ, held together by physical entanglements on a molecular scale, without chemical bonding.

The TAMORI et al reference certainly does not disclose a powder made of particles of two interpenetrating polymer networks of PMSQ and PMS that are used to improve the feel of cosmetic compositions on the skin. The reference discloses a film made of an interpenetrating polymer network of PMS (no PMSQ) together with a B component, a radical polymerizable monomer as defined in the reference in col.8, line 52 to col. 11, line 5. These radical polymerizable monomers are acrylates or methacrylates, vinyl compound so styrene compounds, that is compounds with carbon-carbon

double bonds that in no way resemble in terms of structure a compound such as PMSQ. Applicants find no suggestion in TAMORI et al or in any of the other cited references to form powders made of particles of the two interpenetrating polymer networks of PMSQ and PMS that are used to improve the feel of cosmetic compositions on the skin. All of the claims now presented are directed to powders made of the two interpenetrating polymer networks of PMSQ and PMS, held together solely by physical entanglements, without chemical bonding.

The fact that the TAMORI et al compositions are disclosed as films useful for providing chemical resistance, moisture resistance, weather resistance, with no indication or suggestion of utility for improving the feel of cosmetic compositions to the skin by providing a feeling of smoothness gives an additional argument against the combination of references as applied by the Examiner.

Applicants have also considered the Examiner's argument bridging pages 4 and 5 of the office action. Here the Examiner argues that even though there is no disclosure in any prior art reference of a powder made of particles of two interpenetrating polymer networks of PMSQ and PMS, held together solely by physical entanglements on a molecular scale, without chemical bonding between them, for any purpose at all, let alone for the specific purpose of improving the feel of cosmetic compositions to the skin, the Examiner believes that such an invention is still obvious

because KANNO et al and FUKUNAGA disclose particles of a silicone rubber core coated with a PMSQ resin, and that HARASHIMA et al discloses the silicone rubber PMS. The Examiner then states that because there are only a limited number of ways to combine two silicone components such as PMS and PMSQ into a single powder, the prior art disclosure of particles with a center of silicone rubber and a coating of PMSQ is similar enough to render obvious a hybrid silicone composite powder of particles of two interpenetrating polymer networks of PMSQ and PMS.

Applicants do not believe that such an argument supports the obviousness of any of the present claims. There is no disclosure in the prior art of a particle of PMS silicone rubber coated with PMSQ so how can the existence of such a particle render obvious the composite powder of particles of two interpenetrating polymer networks of PMSQ and PMS held together solely by physical means without chemical bonding? However, even if there were a disclosure in the prior art of a particle of PMS silicone rubber coated with PMSQ, the powder composition of present claim 25 with its two interpenetrating polymer networks is structurally very distinct from one polymer coated onto the other, and the Examiner has provided no secondary reference showing an art-recognized equivalence of the two structures.

It is not seen where one skilled in the art would view the preparation of a powder made of two interpenetrating polymer networks of PMS and PMSQ, which are held together by physical

means, on a molecular scale without chemical bonding between them, as an obvious choice from a reading of the combined prior art references to provide a cosmetic additive to improve the feel of a topical cosmetic, since none of the prior art references discloses or suggests the use of powders made of particles of two interpenetrating polymer networks of any kind held together by physical entanglements, on a molecular scale, without chemical bonding, for any purpose at all, let alone to provide a topical cosmetic composition with an improved dry-smooth feeling. Accordingly Applicants believe that the Examiner should no longer maintain the rejection of any claim as obvious under 35 USC 103.

Applicants now provide their direct comments to the Examiner's rejection of the claims as obvious under 35 USC 103:

Our interpenetrating networks of PMS and PMSQ held together solely by physical means, without chemical bonding, provides an entirely different molecular structure and morphology of the PMS and PMSQ with entirely different properties. Table 1 shows the difference between our invented IPN powder and the composite powder of Kanno et al.

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1. US Patent 6,153,698, KANNO, et al

The patentees taught a styrene-resin composition that contains a silicone resin (or composite) powder supplied by ShinEtsu Chemical. The silicone resin powder is claimed to include a) silicone rubber powder, or b) silicone resin powder and or c) silicone composite powder, and each powder can render the styrene resin improved impact resistance and sliding property. KANNO et al reviewed the prior art that taught the preparation process of a) silicone rubber powder and b) silicone resin powder, but without published reference for c) silicone composite powder.

We disagree with examiner's judgment in (1) our invented IPN powder is essentially different material compared to the silicone resin powder used by KANNO et al, as we demonstrate in Table 1, and (2) our invented IPN powder and claims have no correlation with styrene-resin composition claimed by KANNO et al. Our IPN powder is not a separate powder and therefore is not dispensable in styrene resin. Rather, our IPN powder is designed as an oil absorber and thickener for cosmetics, while the silicone

composite powder used by KANNO et al does not provide such functions.

2. US Patent 5,803,877, FUKUNAGA et al.

This patent taught, similar to KANNO et al, a specific rubber layer for heat-fixing roll, which consists of curable silicone and silicone resin powder (claim 3) and other powdery additives (claim 4).

Our reading of this patent is the same as previous one by KANNO et al. Again, our invention is not related to heat-fix roll, and not suited for FUKUNAGA et al's application.

3. US Patent 5,387,793, Harashima et al.

This patent taught, as a matter of fact, a non-spherical powder of silicone rubber that contains non-reactive polyoxyalkylene-grafted silicone to render the power water dispensable.

The process uses a curing chemistry, well known in the art, to cure a silicone rubber composition, which is similar to silicone caulk glue for construction, then pulverizes the hardened silicone rubber piece into particles and then passes the particles through a series of sieves. The particles are not spherical in shape and do not render a smooth feel and other functions provided by our invented IPN powder. The reference does not teach how to make a spherical powder.

4. US Patent 6,726,997, TAMORI et al.

TAMORI et al teaches a stable aqueous coating composition that forms a coating film with improved water resistance, leveling

property, high hardness and good transparency.. Note that the composition is not produced whatsoever, in powdered form. Instead, the composition is a continuous paint film on the surface of a subject. Therefore, this patent has not taught a process for spherical IPN powder at all.

A polymer spherical powder must be produced under extremely stringent conditions with all parameters very sensitive to the shape and size of the particles, and there is no obvious guideline useful for each individual polymer spheres preparation. In other words, it is impossible for a person of ordinary skill in the art to simply take TAMORI et al's process to perform routine experiments to obtain a spherical powder. Furthermore, TAMORI et al claims that the formed polymer film has an IPN structure of acrylate network and alkoxysilane network, the latter improves weather resistance. Thus TAMORI et al has not taught how to make IPN sphere powder of PMS and PMSQ. The chemistry reactions are completely different, and so are the process conditions. Our composition comprises two interpolymer networks with two incompatible polymers, and thus make them compatible. Such a structural change has far more impact than mere physical blending or composite polymers with one being coated on another as disclosed in the prior art references discussed above that were cited by the Examiner.

We conclude :

1. Our invented IPN powder is both novel and unobvious, and the cited combination of prior art references neither discloses nor suggests it;
2. The silicone composite powders disclosed by the above patents differ from our invented IPN powder in physical form, properties and potential applications;
3. The prior art compositions taught by the above four patents do not render obvious the presently claimed invention. The correlation seems not to exist.

Applicants believe that all claims now presented are allowable over the cited prior art and a response to that effect is earnestly solicited.

K.F. Ross P.C.

/Jonathan Myers/

By: Jonathan Myers, 26,963
Attorney for Applicant

20 June 2008
5683 Riverdale Avenue Box 900
Bronx, NY 10471-0900
Cust. No.: 535
Tel: 718 884-6600
Fax: 718 601-1099
Email: email@kfrpc.com

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